

CLAIMS

5 What is claimed:

1. (Amended) A battery casing comprising:

- 10 a) a bottom portion having a bottom and side walls forming a compartment for holding a battery acid and battery plates;
- 15 b) top portion for covering said compartment, wherein the bottom portion and top portion are formed of a flame retardant thermoplastic composition comprising a homopolymer, a copolymer, and ammonium polyphosphate, the battery casing having a burn rating of V-O under the UL-94 standard and a flexural modulus in the range of
- 20 228,000 to 275,000.

2. (Amended) A battery casing formed of a flame-retardant thermoplastic composition, comprising:

- 25 a) a homopolymer
- b) a copolymer; and
- 30 c) ammonium polyphosphate, the battery casing having a burn rating of V-O under the UL-94 standard and a flexural modulus in the range of 228,000 to 275,000.

35 3. The battery casing of Claim 2 wherein the homopolymer includes Polypropylene.

4. The battery casing of Claim 2 wherein the homopolymer includes polyethylene.
5. The battery casing of Claim 2 wherein the copolymer includes ethylene and propylene.
6. The battery casing of Claim 2 wherein the homopolymer of the composition is in a range of between about 33 and 35 percent by weight.
7. The battery casing Claim 2 wherein the copolymer of the composition is in a range of between about 33 and 35 percent by weight.
8. (Amended) The battery casing of Claim 2 wherein the ammonium polyphosphate comprises a flame-retardant system having a melt flow rate in the range of 12.0 to 16.0g/10min.
9. The battery casing of Claim 2 wherein the ammonium polyphosphate is in the range of between about 25 and 27 by weight.
10. The battery casing Claim 2 wherein the homopolymer and copolymer are selected from polyolefins.
11. (Amended) the battery casing of Claim 2 wherein the homopolymer and copolymer comprise a crystalline product formed by polymerization of one or more monoolefins selected from the group consisting of ethylene, propylene, 1-butene, 1-pentene, 1-hexene, 2-methyl-1-propene, 3-methyl-1-pentene, 4-methyl-1-pentene, and 5-methyl-1-hexene.
12. The battery casing of Claim 11 wherein monoolefins are selected from the group consisting of propylene and ethylene.

- 5 13. The battery casing of Claim 12 wherein the polymerized polypropylene is selected from the group consisting of isotactic polymers of propylene, ethylene, and copolymers of propylene with ethylene.
- 10 14. The battery casing of Claim 2 wherein the thermoplastic composition, also includes a filler selected from the group consisting of aluminum trihydrate, hydrated magnesium, hydrated calcium silicate and calcium carbonate.
- 15 15. The battery casing of Claim 14 wherein said filler varies from about 0-250 parts per 100 parts of the homopolymer and copolymer.
- 20 16. The battery casing of Claim 14 wherein said filler further includes melamine and polyol.
- 20 17. The battery casing of Claim 2 which is included in a photovoltaic battery.
- 25 18. The battery casing of Claim 2 which is included in a motive battery.
- 25 19. The battery casing of Claim 2 which is included in a backup battery.
- 30 20. (Amended) A method for forming a flame-retardant composition for a battery casing comprising blending a homopolymer, copolymer and ammonium polyphosphate together at a temperature in a range of between about 340 and 410°F to form the flame retardant composition, the composition having a melt flow rate in the range of 9.6 to 16.0g/10min. and flexural modulus in the range of 228,000 to 275,000.
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21. The method of Claim 20 wherein the composition is blended with two rotors having forward and reverse helix angles and said rotors are counterrotating and non-intermeshing.
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22. The method of Claim 21 wherein the rotors have a diameter of about 3.84 inches and working length of about fourteen inches.

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